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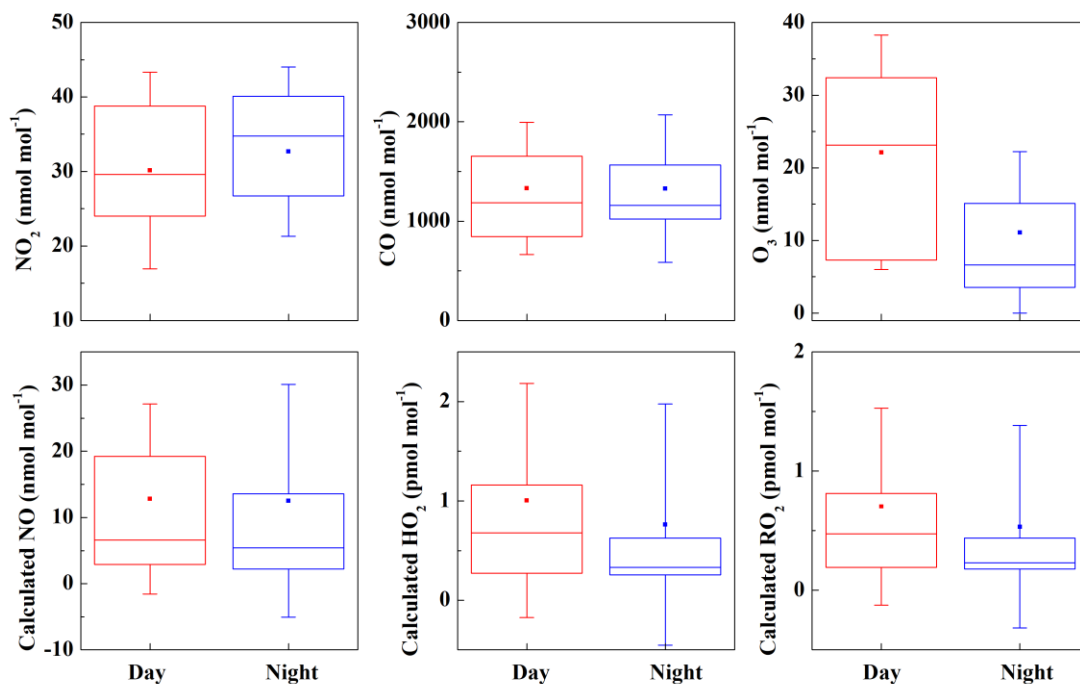
Supplement of

Atmospheric $\Delta^{17}\text{O}(\text{NO}_3^-)$ reveals nocturnal chemistry dominates nitrate production in Beijing haze

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2 **Figure S1.** The diurnal differences of observed NO₂, CO and O₃ and calculated NO, HO₂ and RO₂
 3 during our sampling periods. The daytime sample is from 08:00 to 20:00 and the nighttime sample is
 4 from 20:00 to 08:00.

5

6 **Table S1** The input of organic compounds for MCM model (pmol mol⁻¹)^a

Species	PM _{2.5} < 75 μg m ⁻³	PM _{2.5} ≥ 75 μg m ⁻³
Methane	1900	1900
Formaldehyde	3.49	7.65
Acetaldehyde	2.36	5.89
Ethane	3.675	10.34
Propane	2.165	6.93
isobutane	0.815	2.52
n-Butane	1.135	3.58
isopentane	0.65	2.26
n-Pentane	0.465	1.51
2-methylpentane	0.235	0.77
n-Hexane	0.265	0.84
Ethylene	2.245	6.64
Propene	0.505	1.19
1-Butene	0.14	0.36
isoprene	0.085	0.12
Acetylene	1.945	7.82
Benzene	0.63	1.95
Toluene	0.925	2.84
Ethylbenzene	0.295	1.08
m/p-Xylene	0.605	2.03

o-Xylene	0.175	0.63
Acrolein	0.1	0.25
Propanal	0.31	0.66
Acetone	2.41	6
MTBE	0.2	0.71
Methylvinylketone	0.095	0.32
Methylethylketone	0.435	1.41
n-Hexanal	0.18	0.48
Chloromethane	0.32	0.91
Dichloromethane	1.895	4.4
Chloroform	0.395	1.31
1,2-Dichloroethane	0.5	1.91
1,2-Dichloropropane	0.35	1.46
1,1,2,2-Tetrachloroethane	0.315	0.32

7 ^a The mixing ratio of methane is from Wang et al. (2001). The mixing ratios of formaldehyde and
8 acetaldehyde are from Rao et al. (2016). The mixing ratios of other organic compounds are from Wu et
9 al. (2016)

10 **Reference**

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